

Figure 1

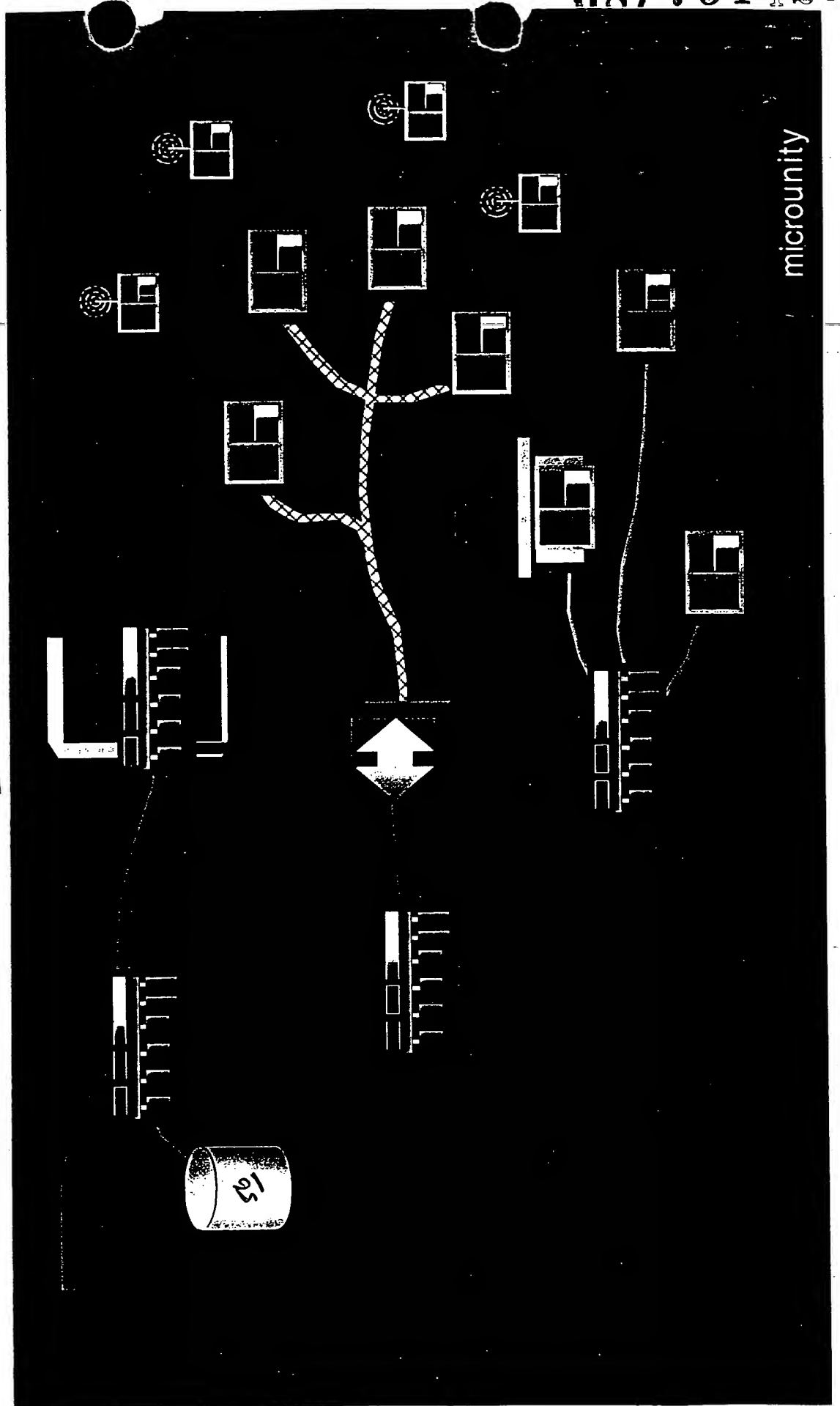
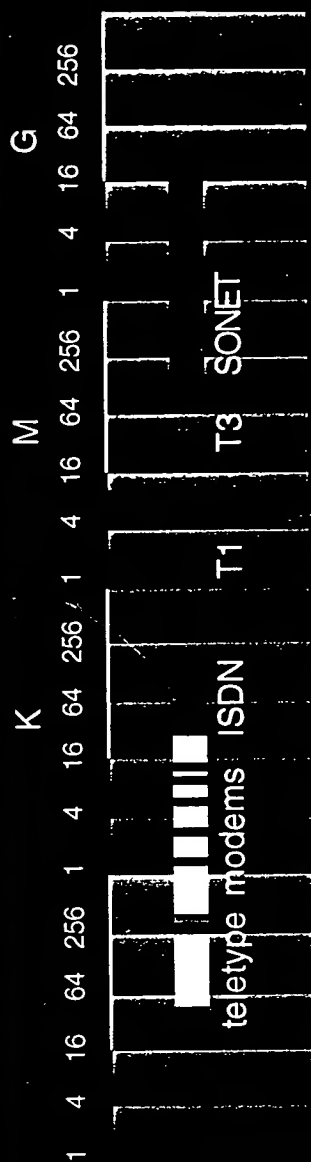
Figure 2

Figure 3

(BITS / SECOND)

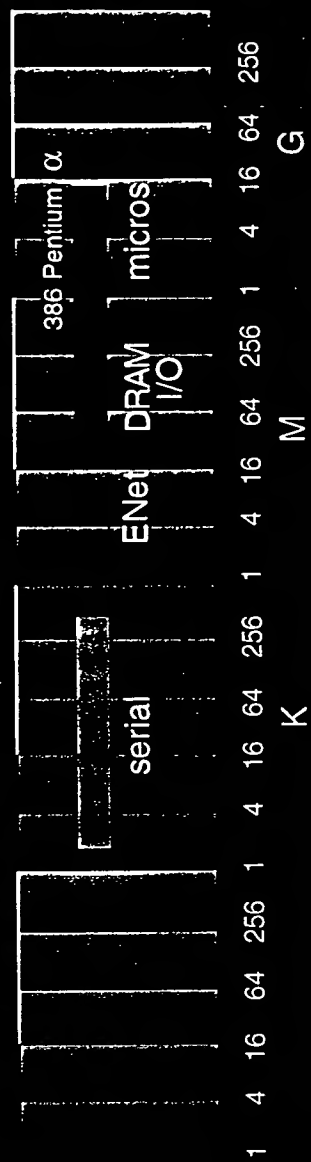
Telecom



Media



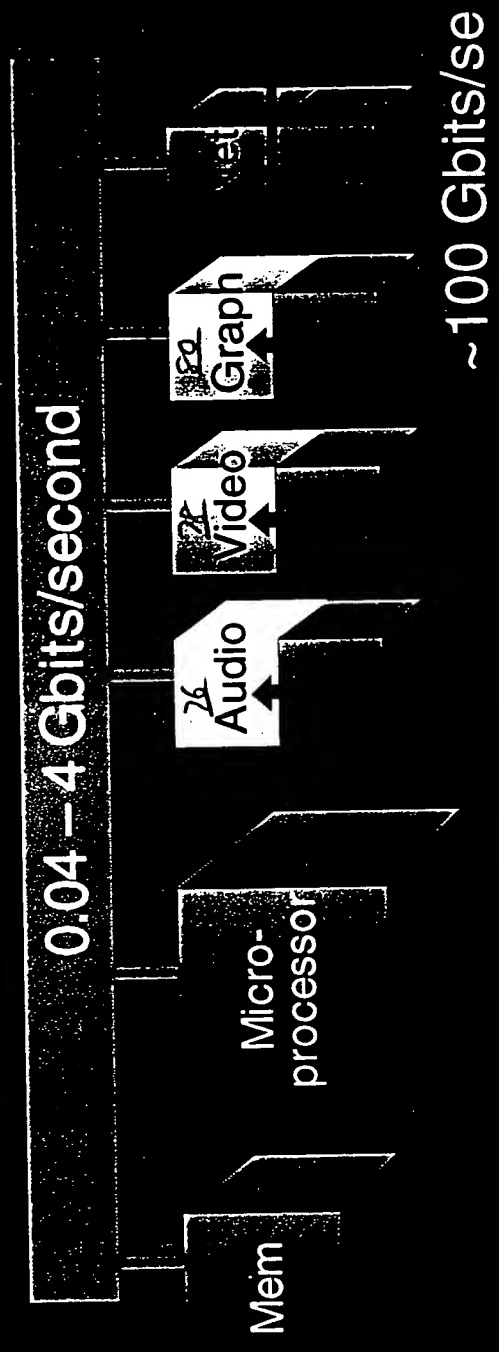
Computing



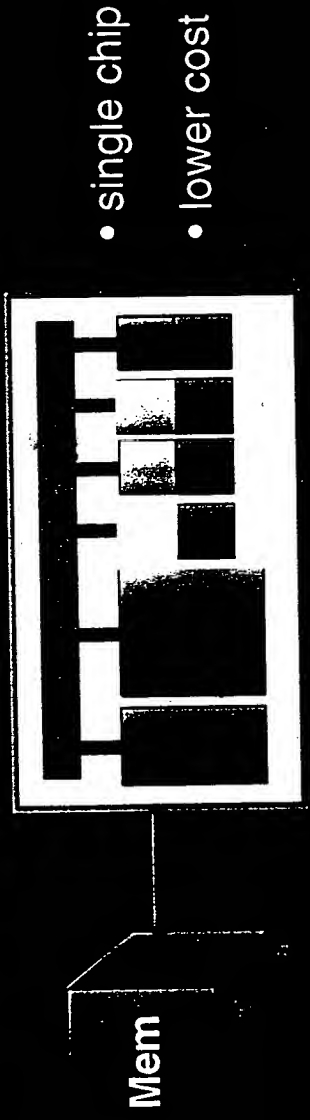
microunity



Figure 5

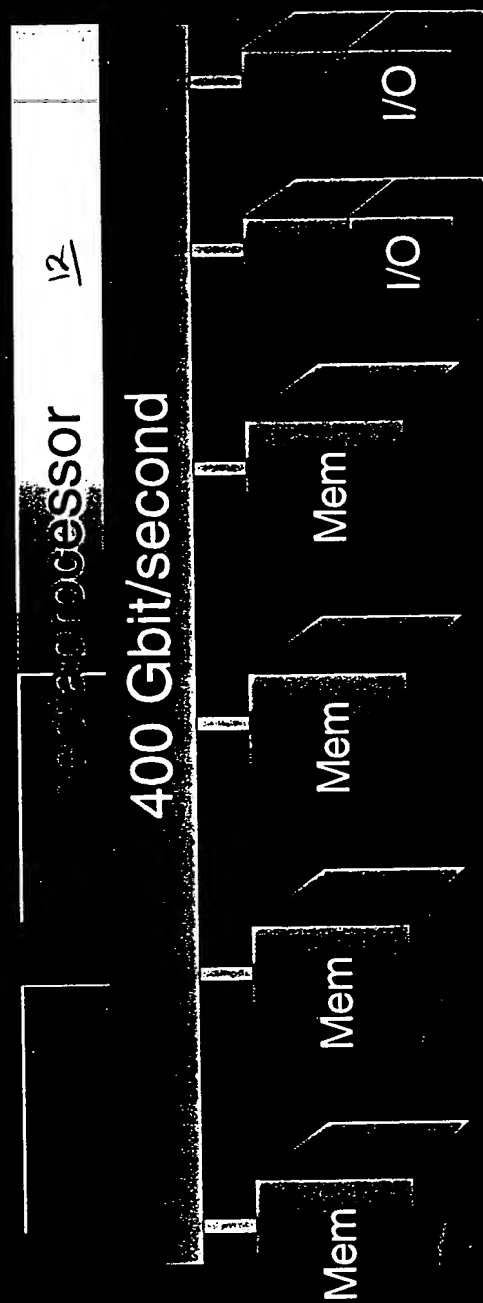


The Future of the Old Way (1999)

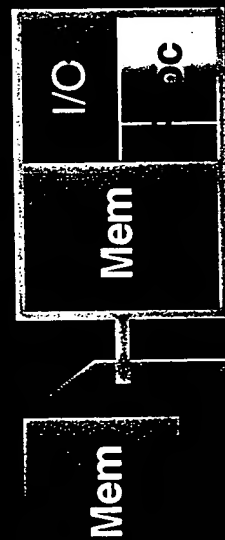


- single chip
- lower cost

Figure 6



The Future of the Unified Way (1995)



- smaller chip
- much lower cost

Figure 7

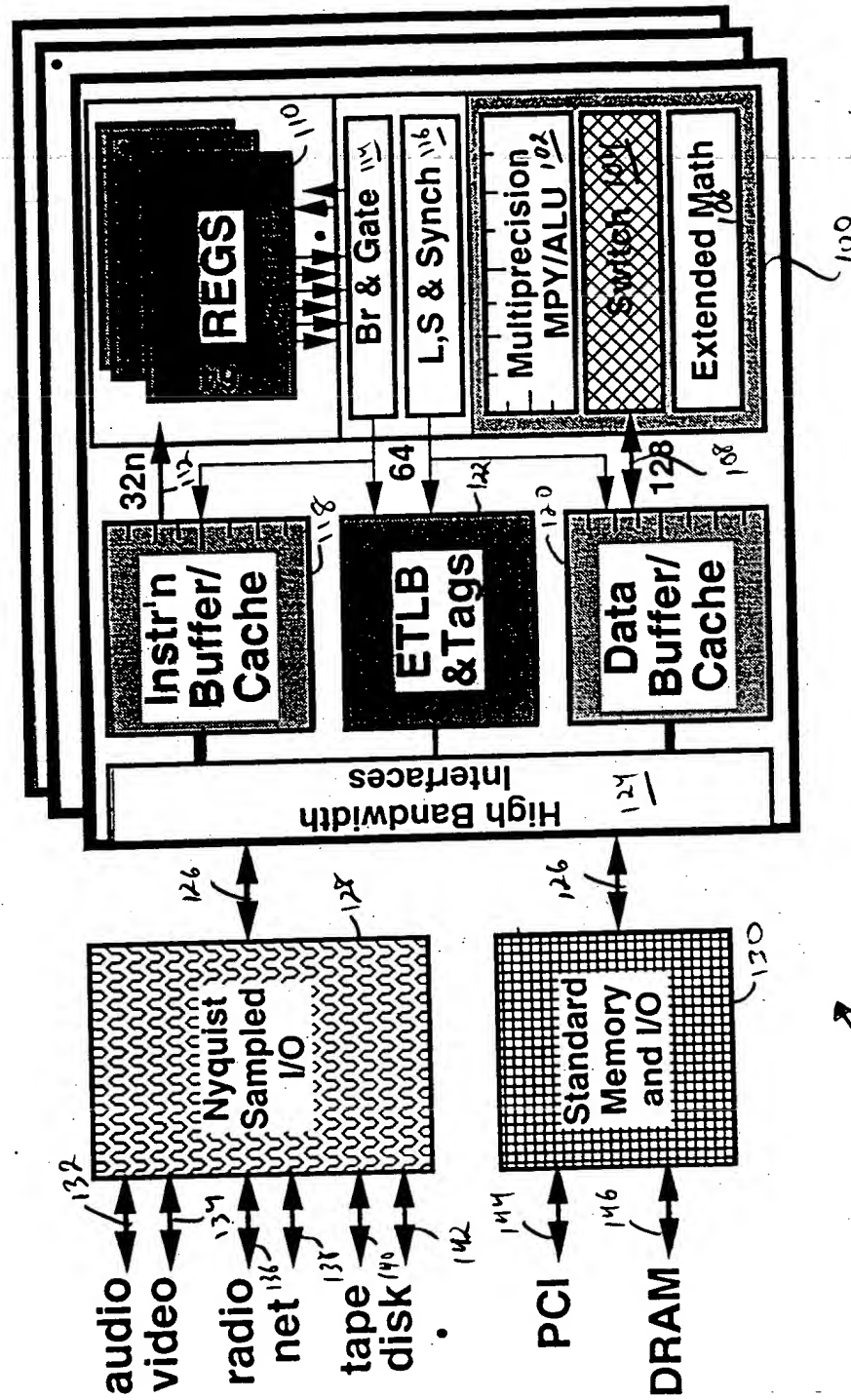


Figure 8(a)

# Group Expand

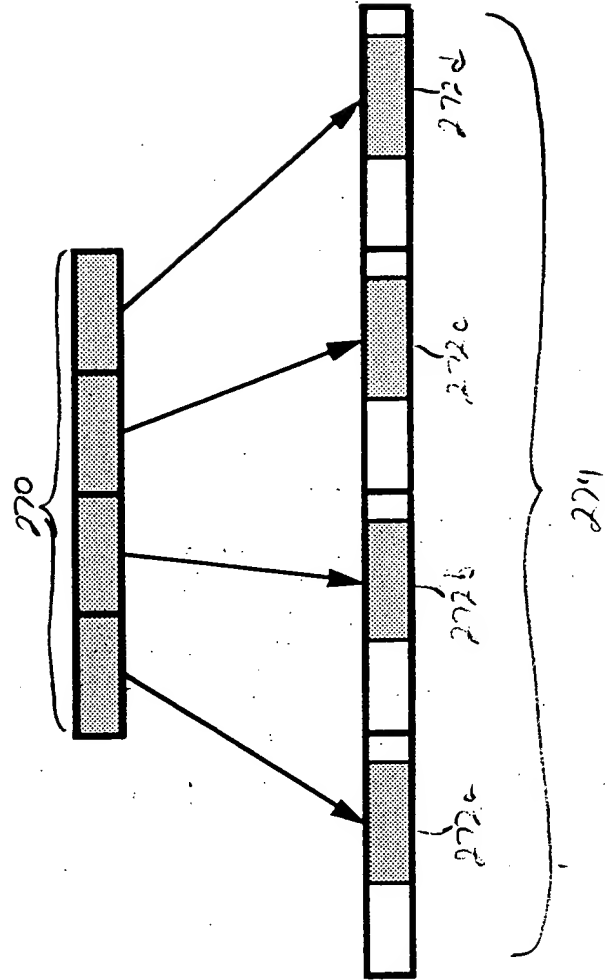




Figure 8(b)  
Group Compress, Extract

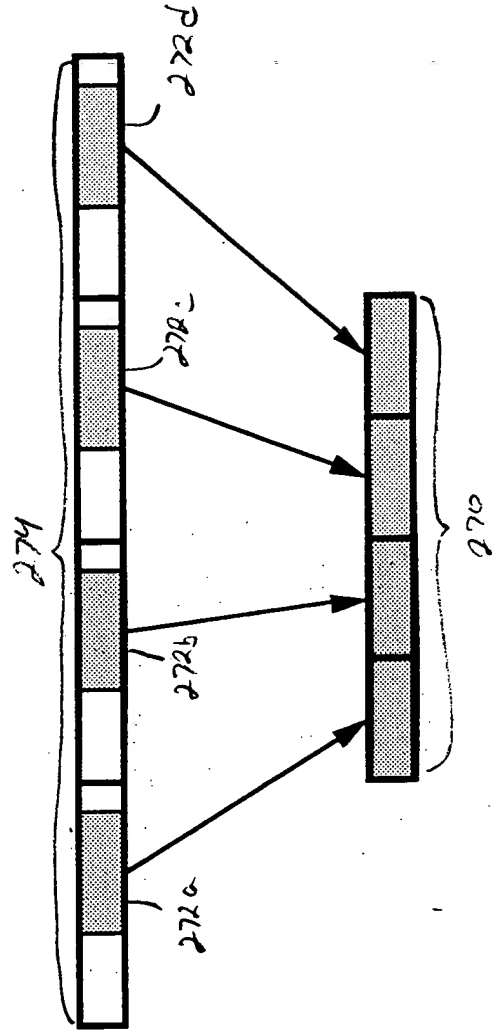
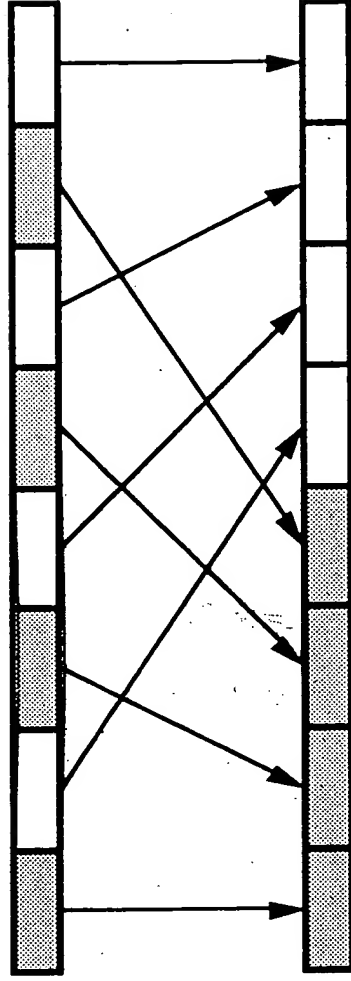


Figure 86C

## Group Deal, Shuffle

- Group Deal: 128 bits to 128 bits



- Group Shuffle: 128 bits to 128 bits

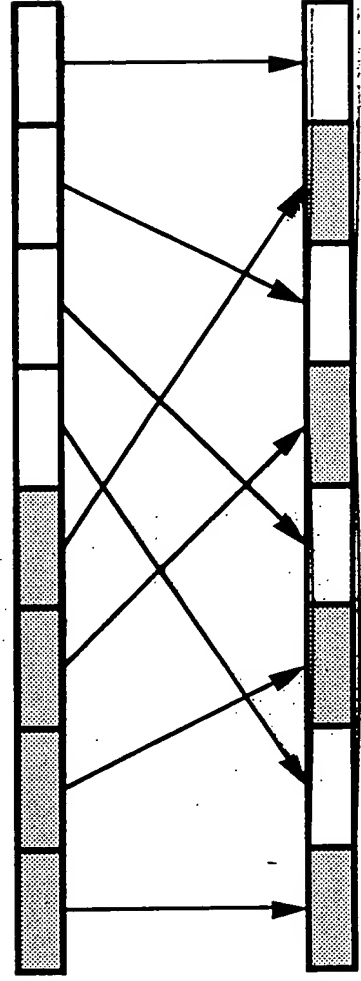


Figure 8(d)

## Group Swizzle (Copy-Swap)

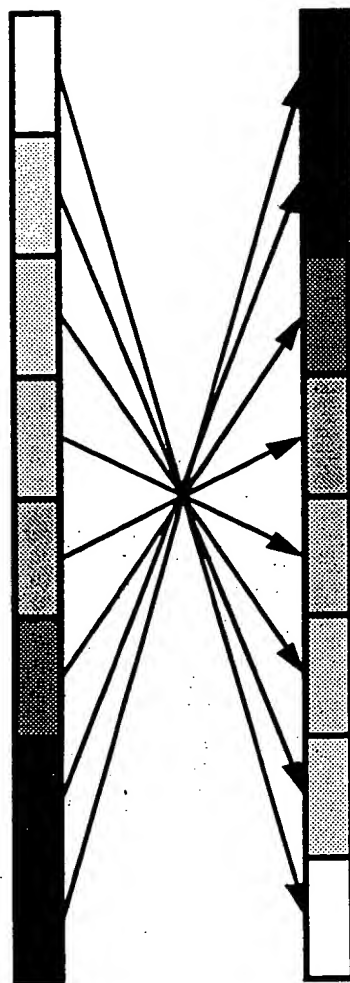


Figure 8(e)

# Group Permute

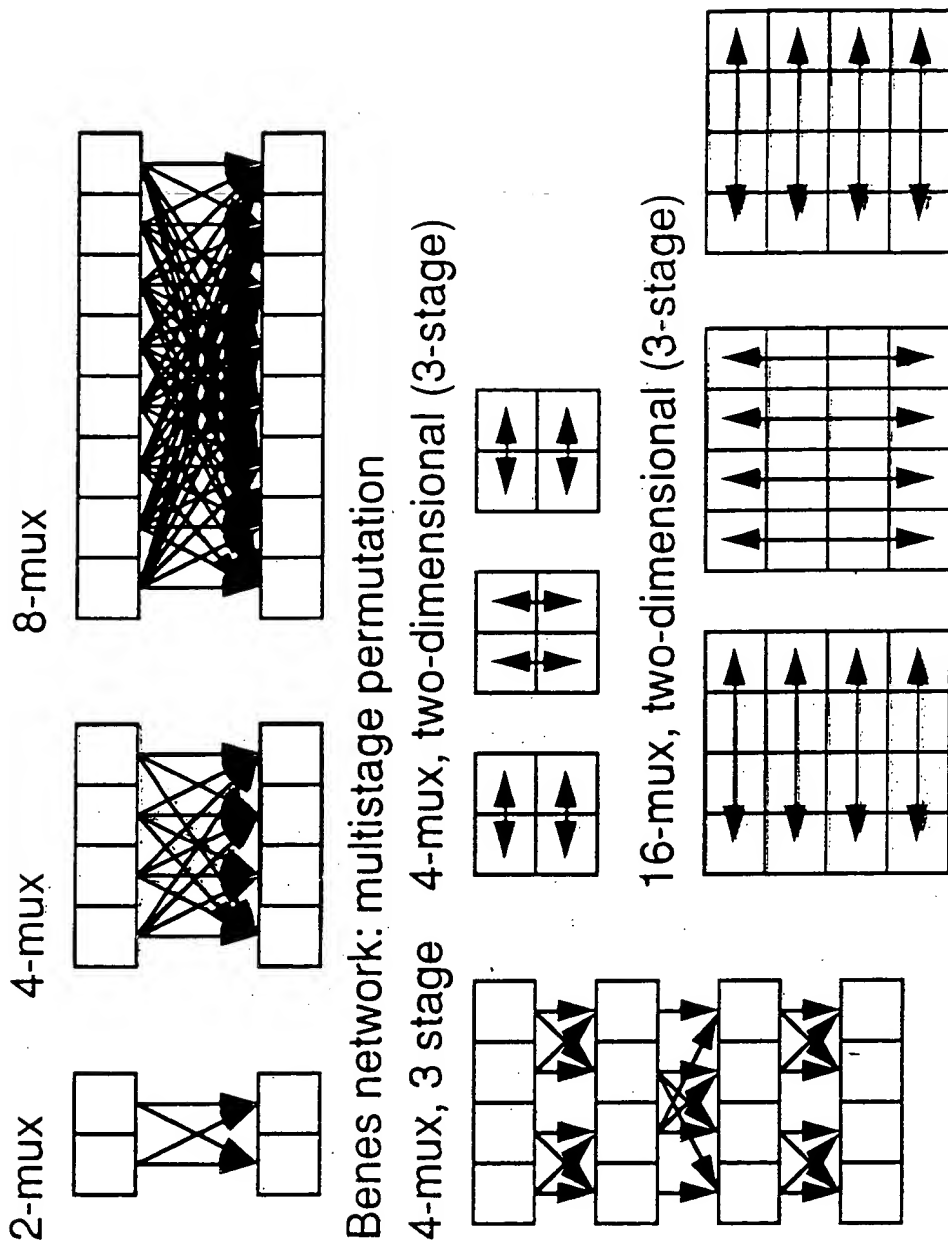


Figure 9(a)

# Instruction Formats

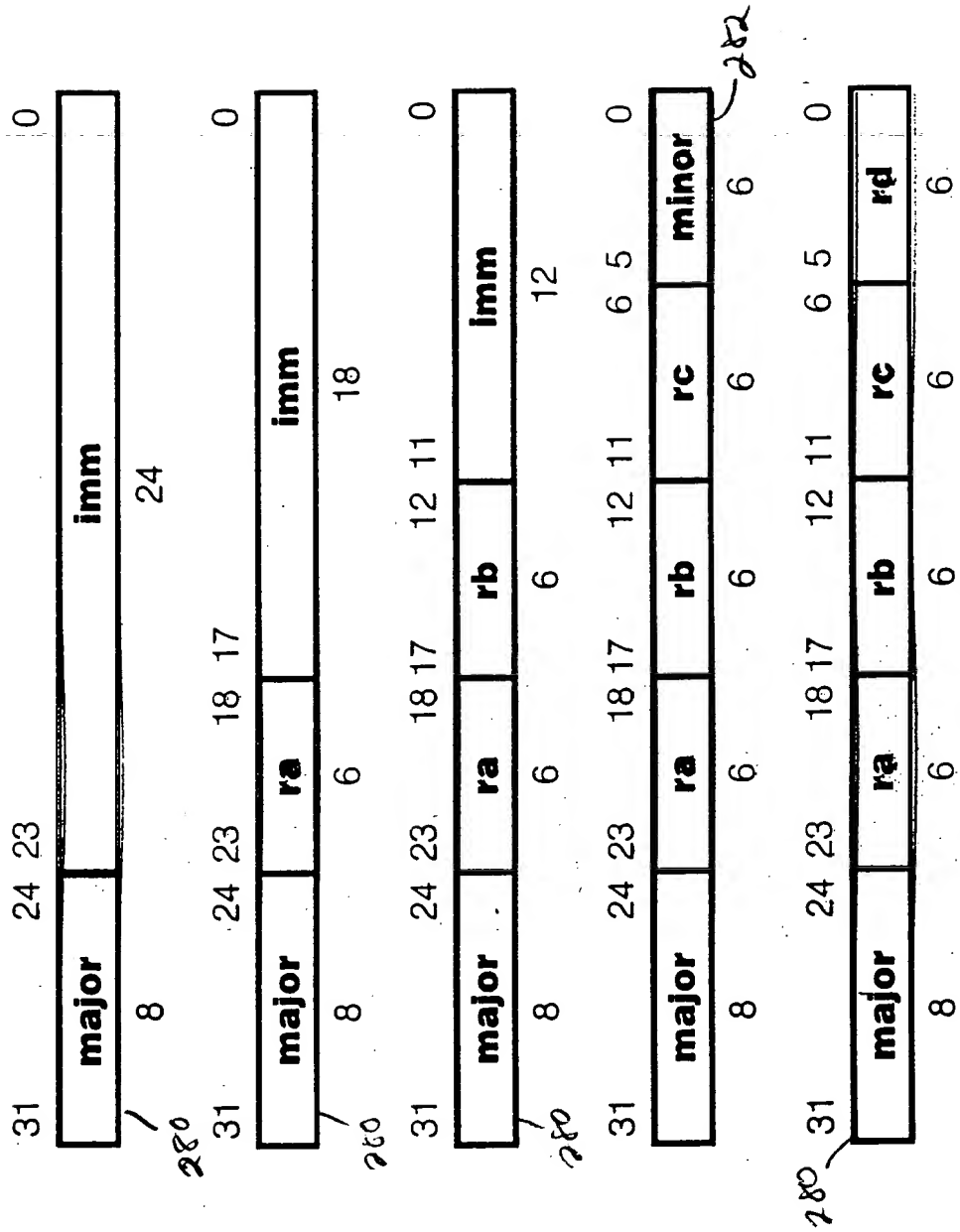


Figure 9(b)

# Floating-point Data Sizes

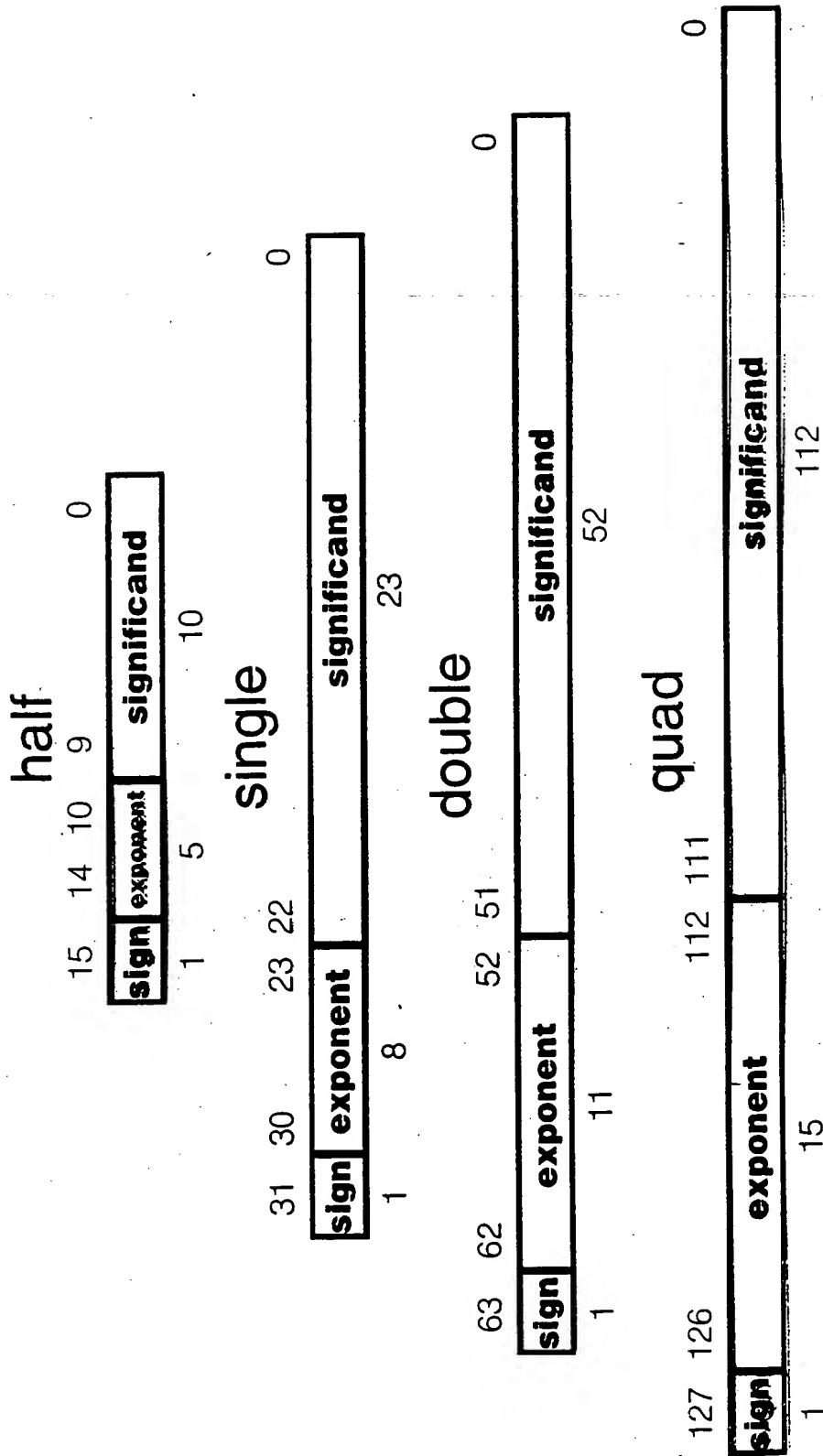


Figure 9(c)

## Fixed-Point Data Sizes

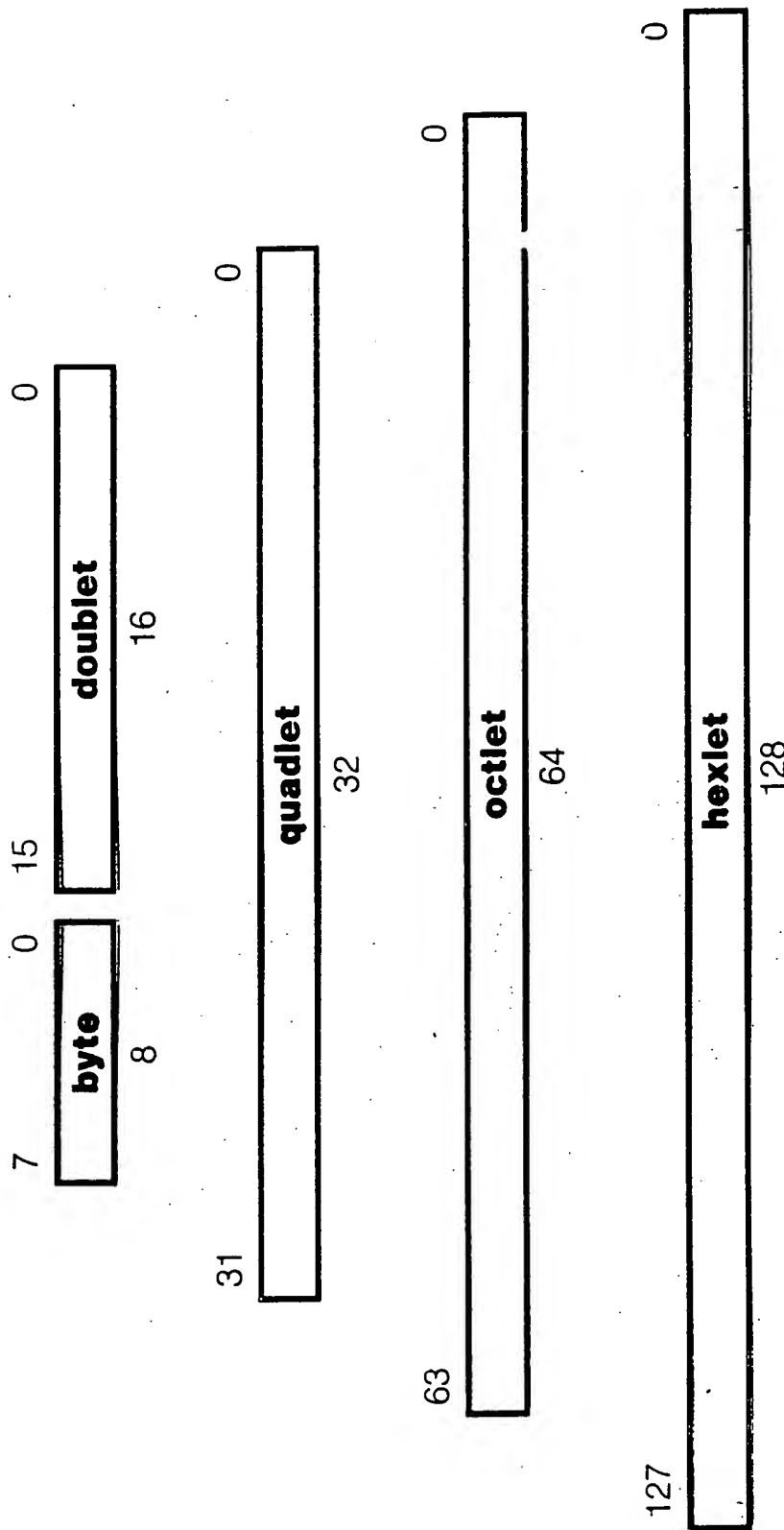
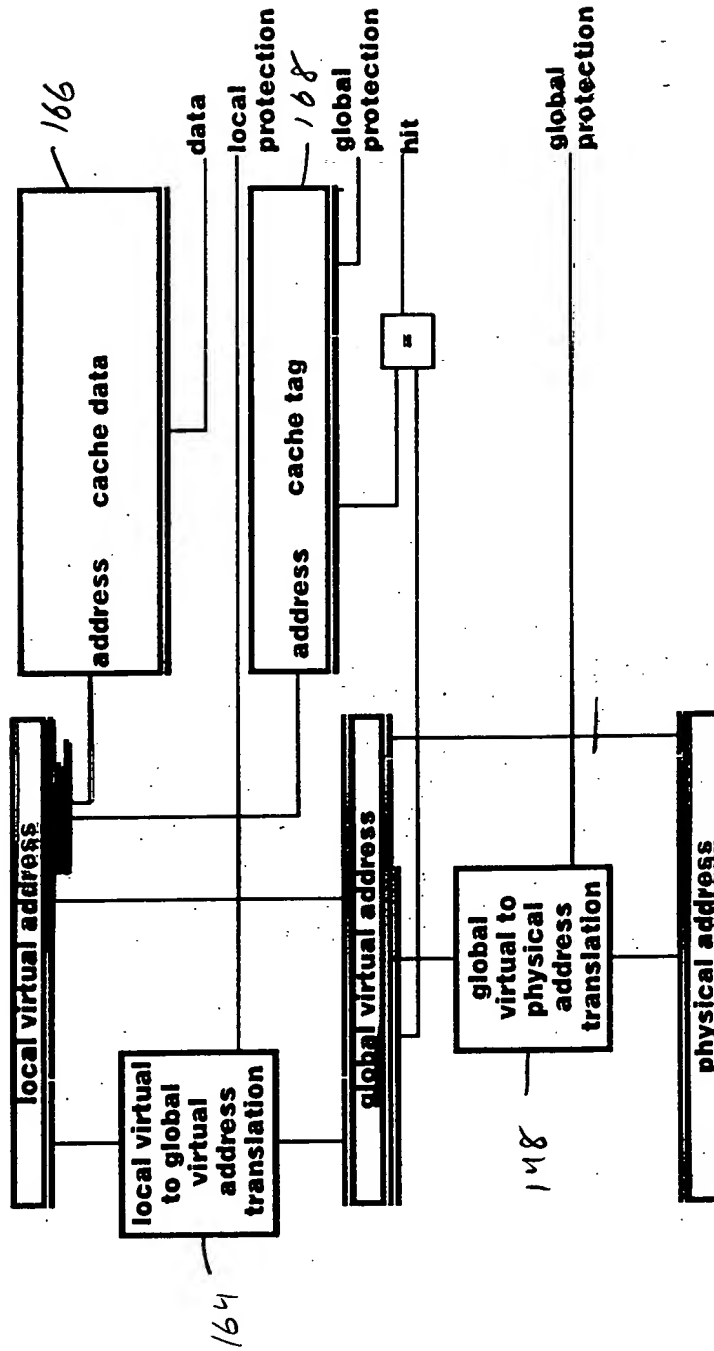


Figure 10(a)

## Translation Block Diagram





# Translation Lookaside Buffer

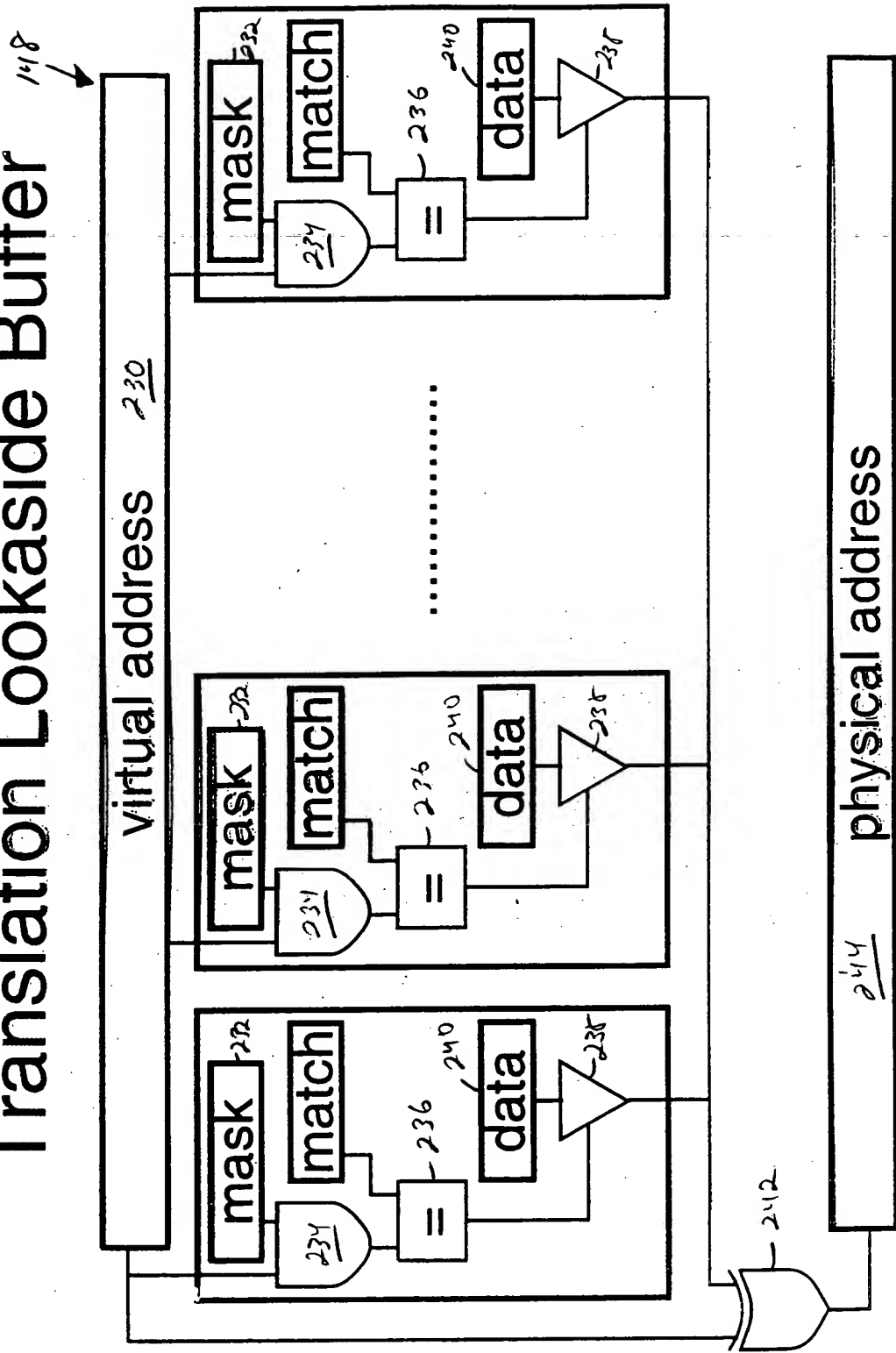


Figure 11

## Superstring Pipeline

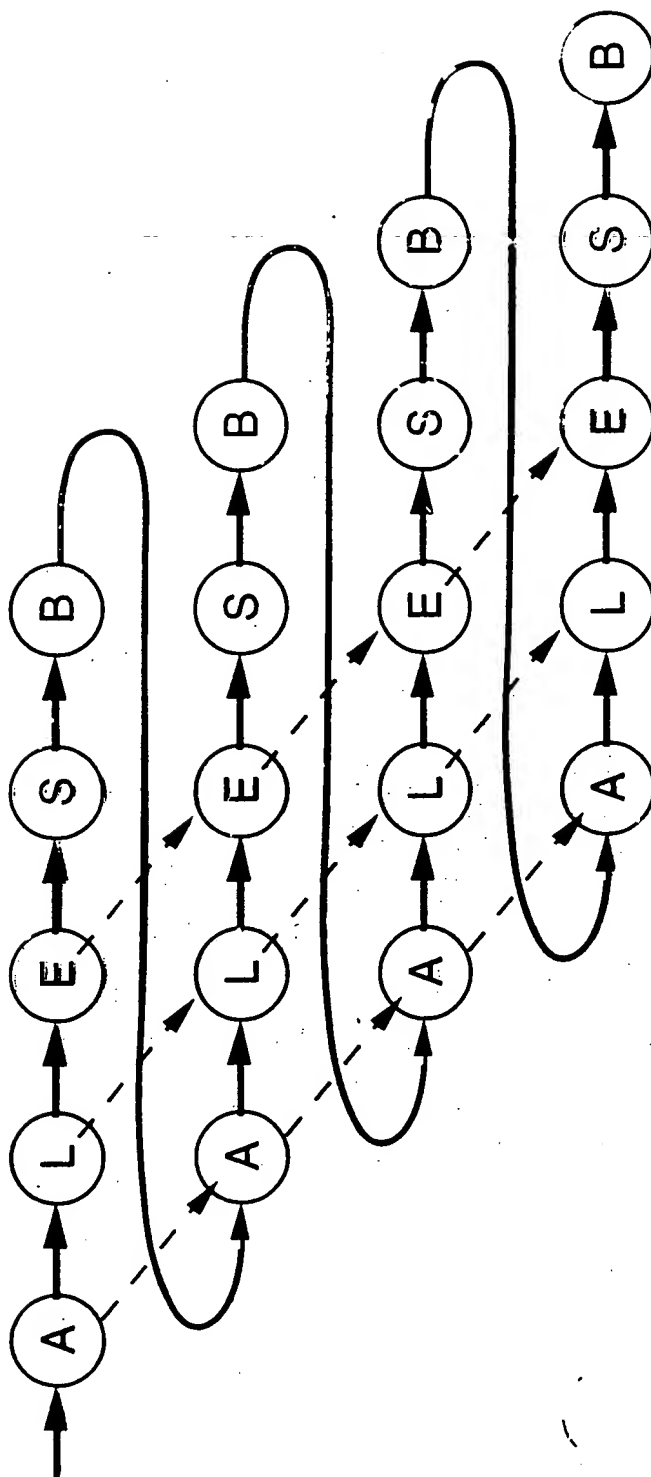


Figure 12

# Superspring Pipeline

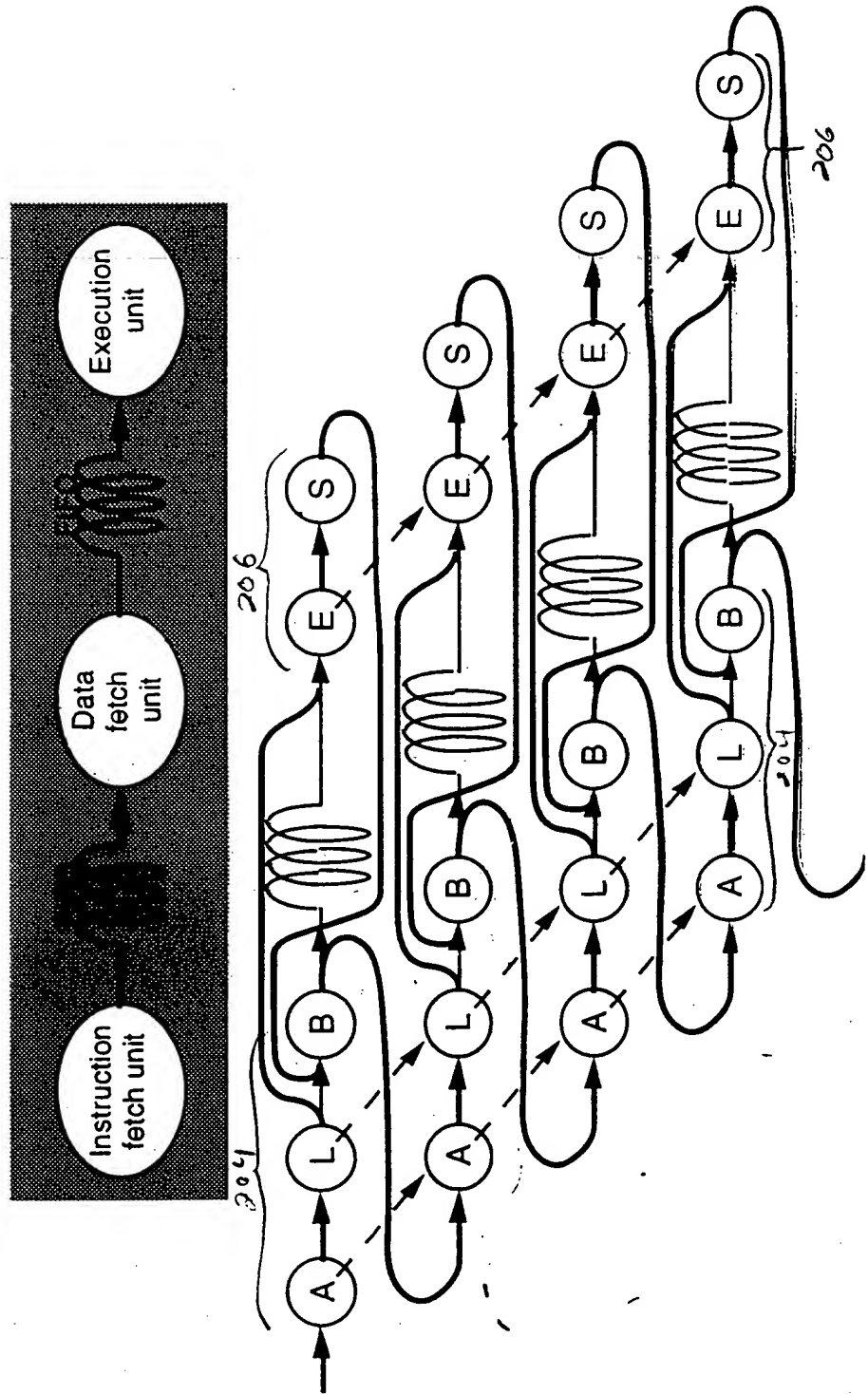


Figure 13

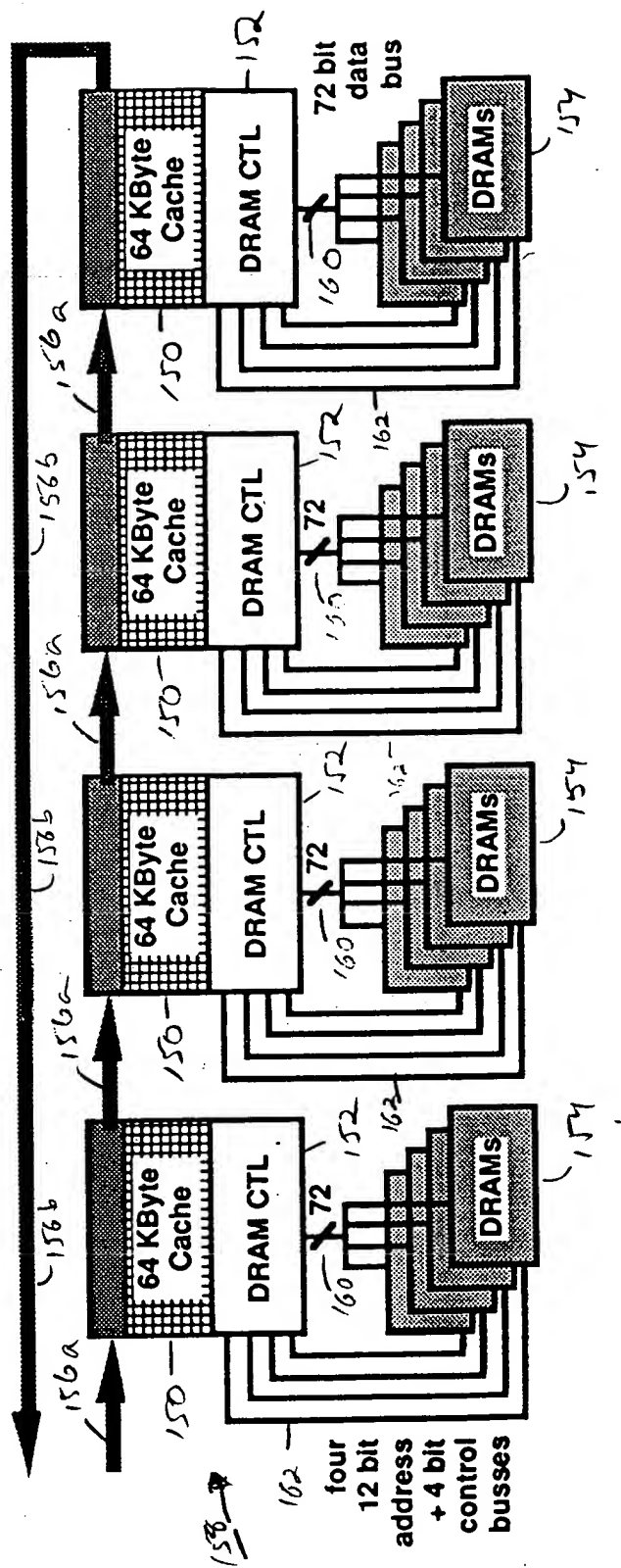




Figure 15

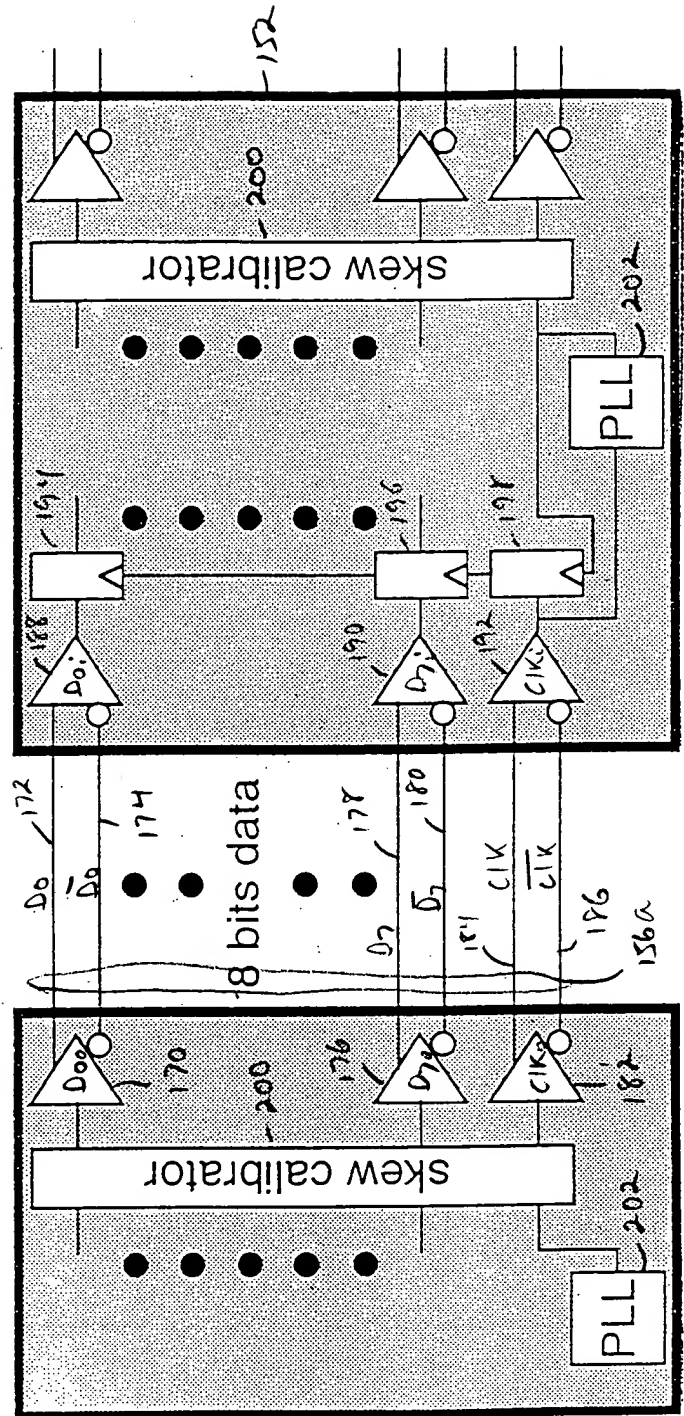


Figure 16(a)

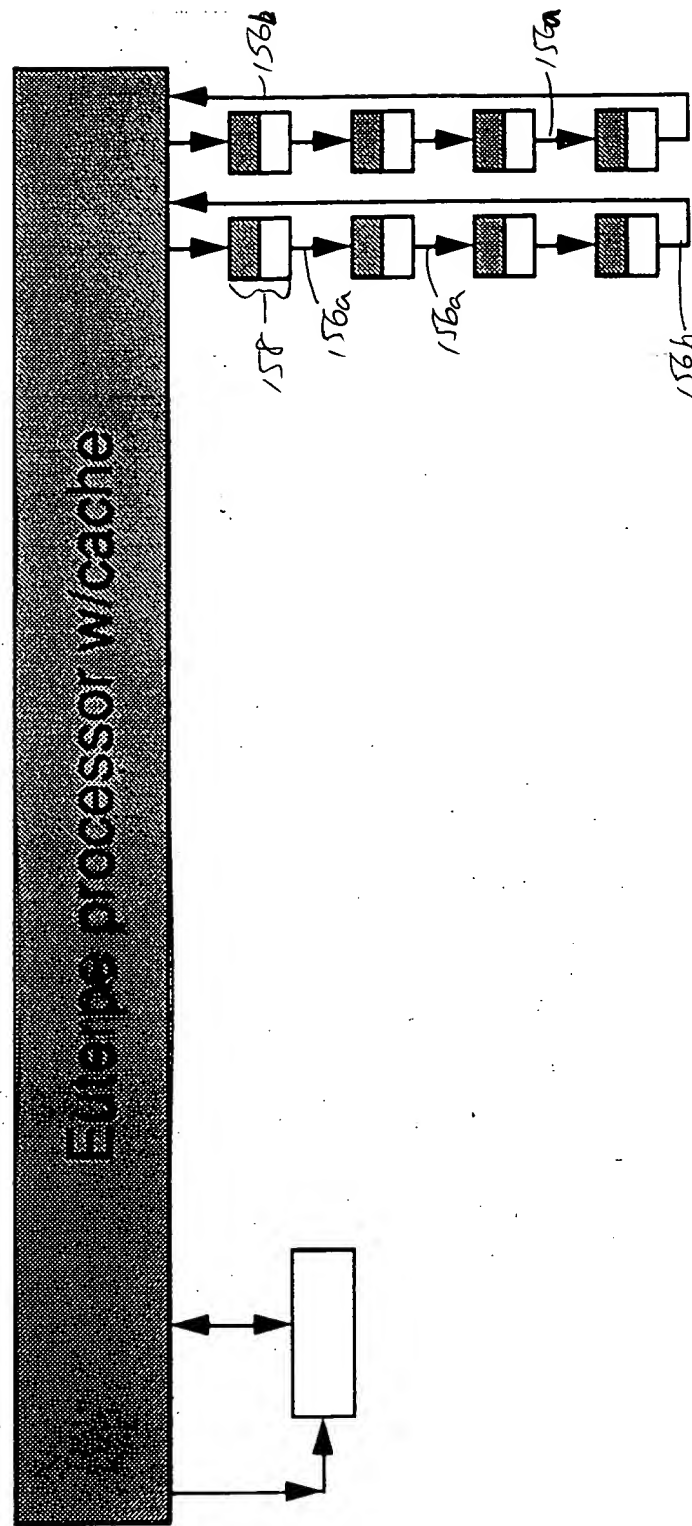


Figure 166b)

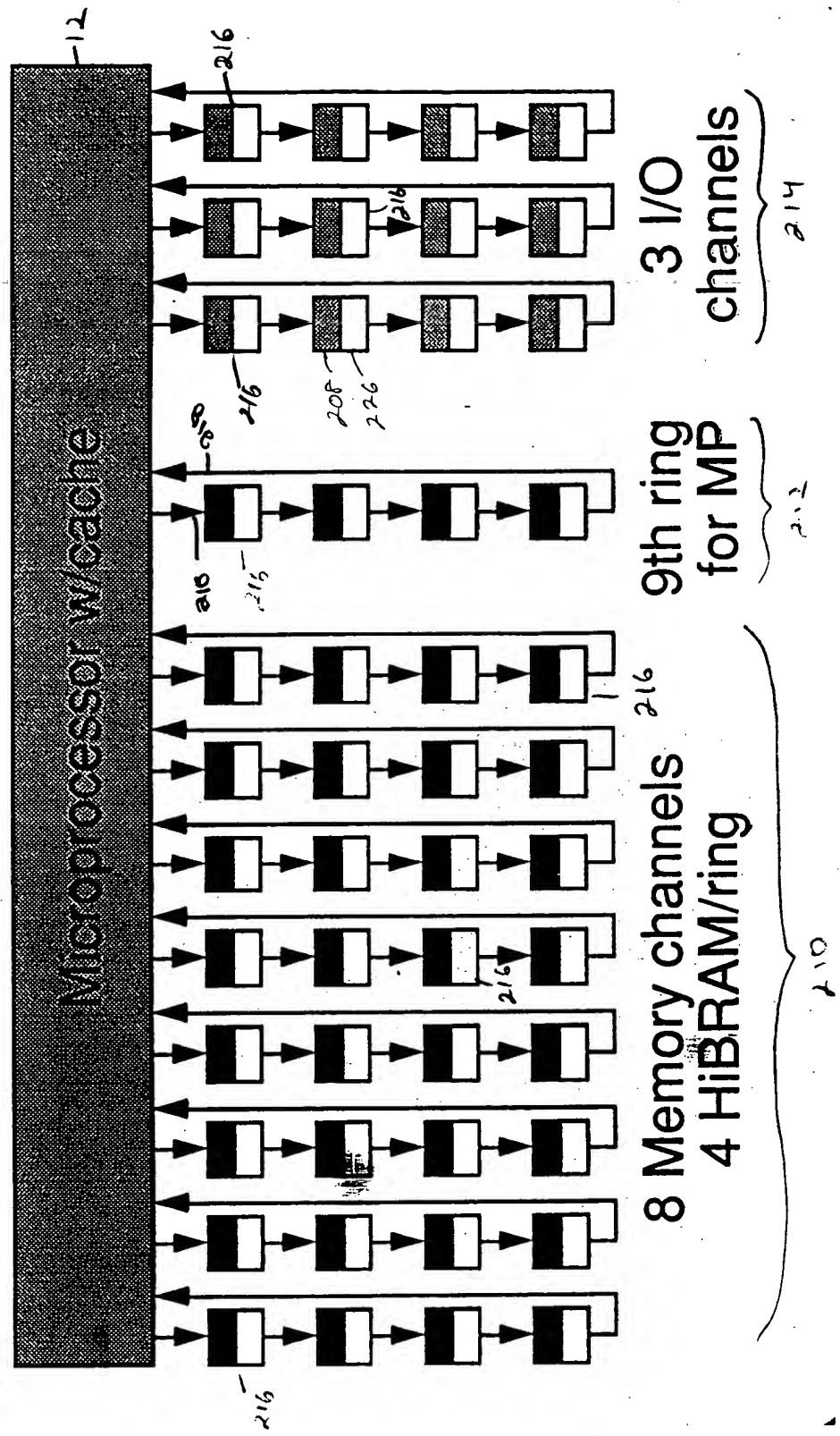




Figure 17

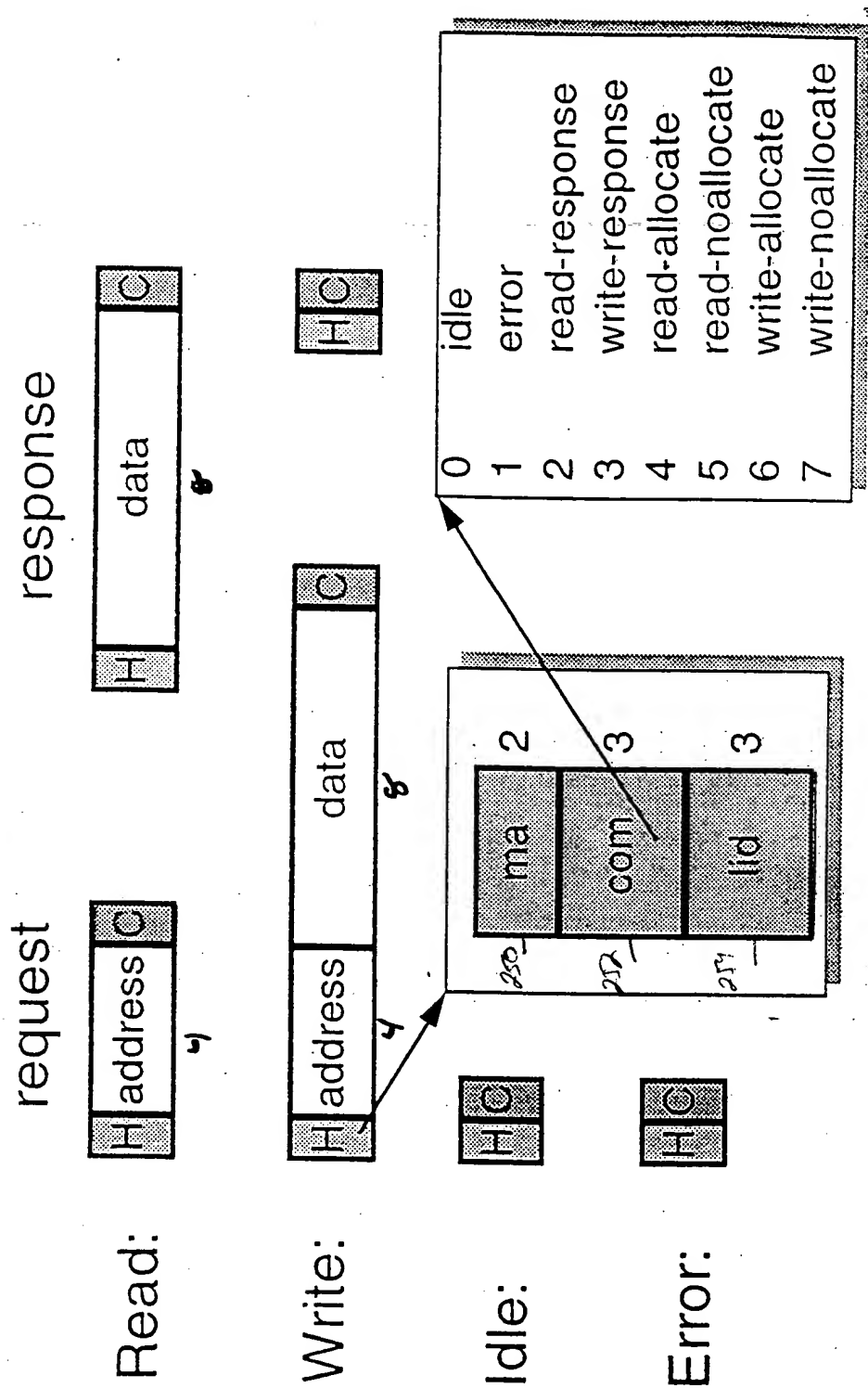


Figure 18

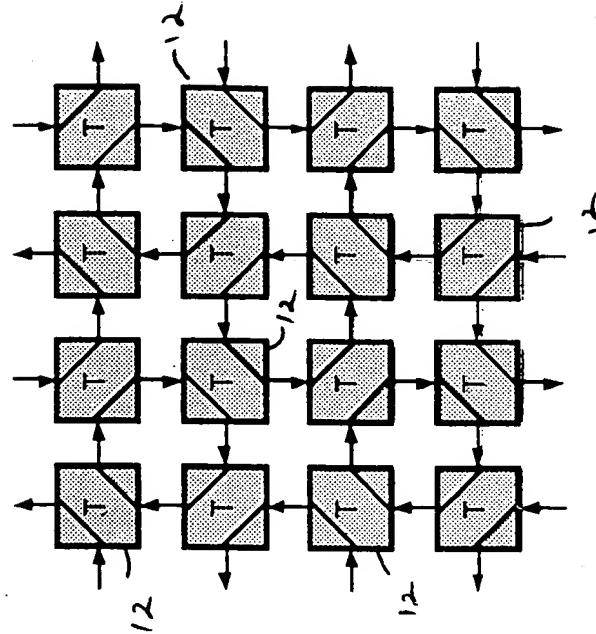
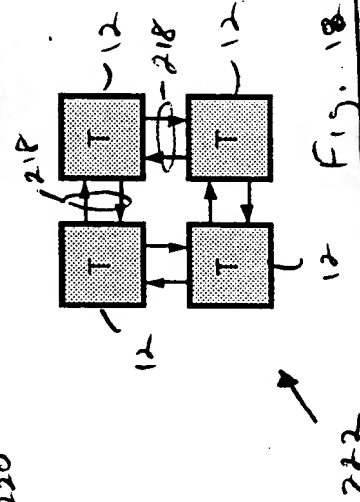
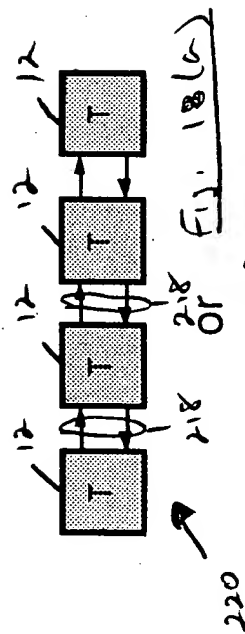
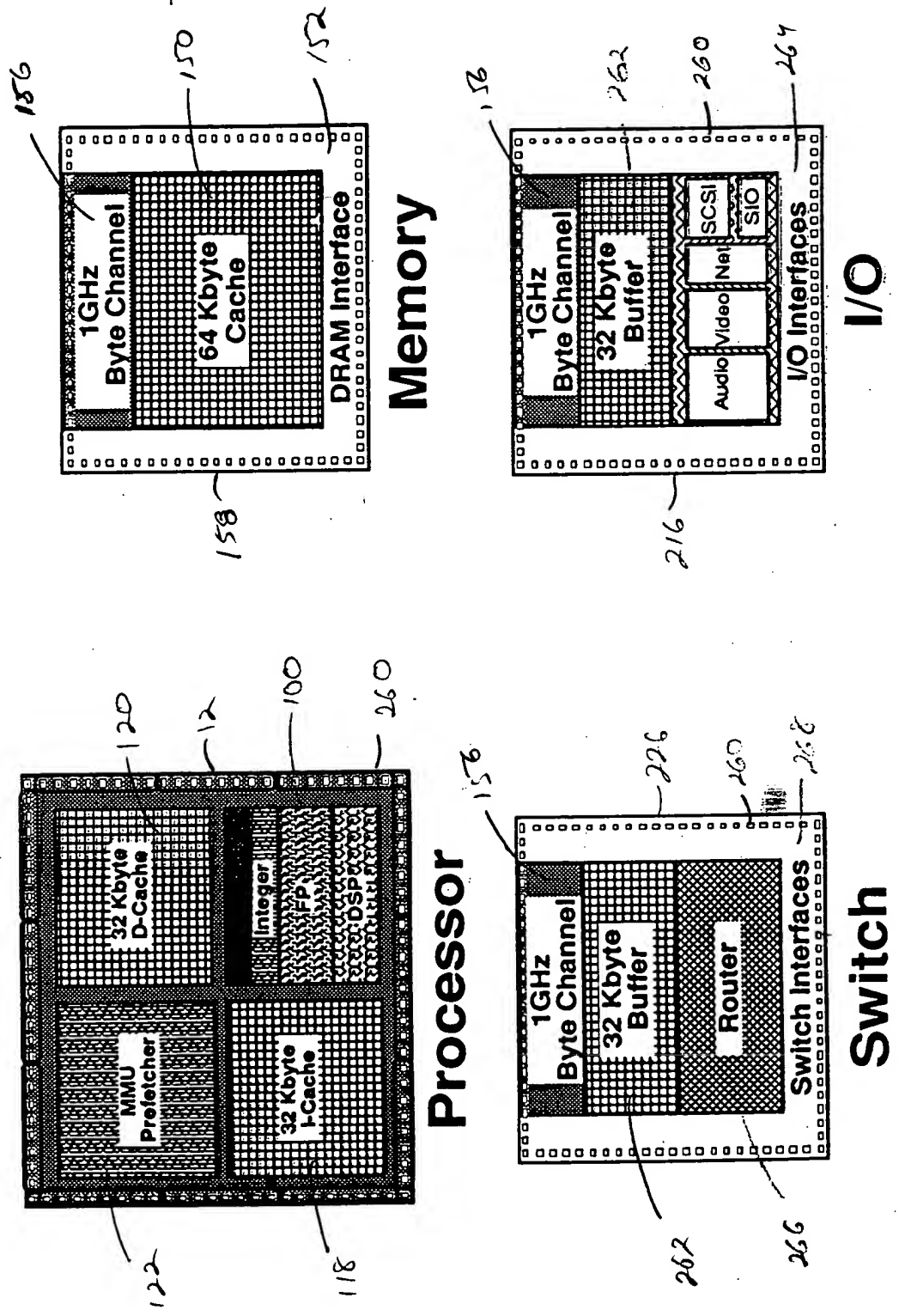


Figure 19



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